in this character: it is rounded anteriorly, and is subangular posteriorly. The dorsal margin is nearly straight, the basal margin is slightly emarginate, the dise being disposed to be flattish. In the specimens under examination, the beaks are all more or less croded, but in the youngest there are slight indications of undulations. The ligament is thin and long; the marks of growth are distant and rather dark, and the epidermis in the young is yellow or greenish, in the older it is darker and brown ; the anterior cicatrices are distinct; the dorsal small, and placed in the cavity of the beaks.

The five species herein deseribed are remarkable in the character of the dorsal line, which rises immediately under the margin into a dentoid line, somewhat lamellar, and approaching in its character the more distinct tooth of the genus Dipsas (Leach). In the younger specimens this is much more distinctly marked, and in the older it becomes obsolete. This group of Anodonte, having this dentoid character, would seem to form a natural connexion on one side with the genus Dipsas, and on the other with the genus Unio, connecting with U. Bengalensis, brought by Dr. Burrough from India, and described by me in the 'Trans. Am. Phil. Soc.' vol. vi. pl. 2. fig. 3. This peculiar form of tooth, if it may so be called, is peculiar to that part of the world, so far as my observation extends; for among the numerous species examined by me from Europe, Africa and America, South as well as North, I have never met with this character developed as in those alluded to above.

Anodonta crepera. A. testa ellipticû, subcompressû, incquilaterali; valvulis temuilus ; natibus sulprominentilus; epidermide tenebroso-fuscd; margaritâ vel albâ vel purpured.
Hab. Bongabon, Luzon, Philippines.
Diam. $1 \cdot 1$; length 1.8 ; breadth 3.3 inches.
Remarks. -Five of the six specimens under examination are purple, the sixth whitish. The outline is nearly oval. One of the specimens is obtusely biangular posteriorly ; the substance of the shell is slightly thickened anteriorly ; the beaks are too much eroded to observe any undulations ; the ligament is rather short and thin ; anterior cicatrices distinct ; dorsal cicatrices small, and placed in the centre of the eavity of the beaks. The species is closely allied to $A$. tenuis, but is not quite so thin and is more transverse. Three specimens of the young have a well-defined anterior lamellar tooth and a distinct posterior raised line, which in the left valve is slightly divided. This is so marked in these young specimens, that one would scarcely hesitate to place them among the Uniones if we had not the adult, which hare scarcely a vestige of the elevation on the dorsal line.

[^0]of both species are compared, prove only to be a variety. The specimens before me, howerer, differ in the tenuis being rather thimer and less elliptical, the outline inclining to oblong. The existence of teeth in the young, and the rudiments on the dorsal line in the adult, are very similar to the crepera. Of the four specimens before me, two have the nacre purple and two white. The beaks are too much eroded to observe any marks of undulations. The ligament is rather long and thin. Anterior cicatrices distinct ; dorsal cicatrices small, and placed in the centre of the cavity of the beaks.

A nodonta subcrassa. A. testa oblongd, sulinfiata, subcequilaterali; ralculis subcrassis; natibus prominentibus undulatisque ; epidermide luteo-fuscâ; margarita albidà, colore salmonis tinctâ et iridescente.
Hab. Laguna de Bai, Luzon, Philippines.
Diam. $1 \cdot 2$ : length $1 \cdot 7$; breadth $2 \cdot 9$ inches.
Remarks.-It is rare to meet with an Anodonta of the thickness of this species, but it still is not so ponderous as the arcuata, Fer., or as lato-marginata (Nobis). It cannot be confounded with either of these species, not being arcuate, and not having compressed beaks like the former, and being oblong and thinner than the latter, as well as also being desritute of the broad margin. The substance of the shell is slightly thickened anteriorly, and the basal margin is emarginate ; the beaks are submedial, and when perfect are beautifully ornate with numerous small folds which form an acute angle from the point of the beaks, nearly parallel to the line of the umbonal slope; the ligament is short and rather thick; anterior cicatrices distinct; dorsal cicatrices large, and placed in the carity of the beaks. The colour of a single young specimen before me is salmon inclining to purple, and the adults have the cavity of the beaks tinted in this manner. In the young specimen the lamellar line on the dorsal margin is very well defined, in the adults this character is nearly obliterated.

> Anodonta Cumingir. A. testâ ellipticá, compressá, incequilaterali; ralvulis subcrassis; natibus cix prominentibus; epidermide atro-fuscá ; margaritd albả et iridescente.

Hab. Malacca.
Diam. 1; length $1 \cdot 9$; breadth 3 inches.
Remarks.-This is an interesting species, and remarkable in the form of the dorsal line, which is thickened and raised immediately under the beak, where it is slightly incurved. This disposition to form a curve tooth reminds us of that group of Naïades which M. D'Orbigny discovered in the rivers of South America, and which comprise his genus Monocondylad. In fact, this species forms a perfect link between the Anodontre and his genus, and it is allied very closely to that species of this group which I described in the 'Trans. of the Am. Phil. Soc.' rol. riii. pl. 18. fig. 39, under the name of Maryaratina Vonderbuseliana, from Java. The form of the tooth of the M. Bonellii also approaches to these. The anterior margin of the Cumingii is rounded, the posterior is somerrhat biangular ; the anterior cicatrices confluent; the dorsal cicatrices form a line aeross
the cavity of the beaks. In all the four specimens under examination, the beaks are too much eroded to observe any undulations. An unusually dark line marks the course of the palial impression.

Note on Tragelaphus Angasir. By Mr. Proudfoot.
The skins which I exhibit to the Society are those of an old ram and of a young female Antelope, which I shot on the banks of the Mapoota River, about sixty miles above its embouchure into Delagoa Bay. This river flows through the comntry of Mankazána, king of the Mathlengas (or Cutfaces), which people call this animal Inyala.

It is also found on another river called Umcoozi, running into St. Lucie Bay in the territory of Umpanda, king of the Zoolu, but very rarely.

On the Mapoota the Inyala are more numerous, and occur in small troops, composed of one ram and four or five females with their young. They are always found in the densest bush: they browse chiefly on shrubs, and resemble the Bush-buck in their general habits.

The average height of an adult male is within a third of an adult Koodoo, and very much above that of a Bush-buck.

The female has no horns, resembles a female Koodoo in form, and is rather smaller in size.

July 23.-W. Yarrell, Esq., V.P., in the Chair.
On new species of Birds from Australia. By J. Gould, F.R.S., F.Z.S. etc.
On the present occasion I propose to characterize seven. more of the novelties sent home by Mr. MacGillivray, Naturalist to II.M.S. 'Rattlesnake.' Vide Ann. Nat. Hist. vol. vi. p. 137.

Tanysiptera Sylinia.
Bill and feet sealing-wax red; crown of the head, wings, and five lateral tail-feathers on each side blue; ear-coverts, back of the neek and mantle black; in the centre of the latter a triangular mark of white ; rump and two middle tail-feathers pure white; all the under surface cinnamon-red.

Total length, 15 inches; bill, $1 \frac{1}{2}$; wing, $3 \frac{5}{8}$; lateral tail-feathers, 3 ; middle tail-feathers, $9 \frac{1}{8}$; tarsi, $\frac{1}{2}$.

Hab. Cape York, Northern Australia.
Remarle.-About the size of T. Dea.
Fine specimens are contained in the British Museum collection.

## Halcyon (Syma?) flavirostris.

Bill fine yellow, passing into brown at the tip; crown of the head, back of the neck, ear-coverts and flanks cinnamon-red; at the back of the neck a narrow, broken collar of black; throat and lower part of the abdomen tawny white; back and wings sordid green; rump and tail greenish blue.

Total length, 7 inches; bill, $1 \frac{7}{8}$; wing, 3 ; tail, $2 \frac{1}{2}$; tarsi, $\frac{1}{2}$.
Mab. Cape York, Northern Australia.
Remark.-Smaller, but nearly allied to the Syma Tirotoro of M.

Lesson. Some specimens have the crorn of the head black. Fine specimens are contained in the collection at the British Museum.

## Drymodes superciliaris.

Lores white ; immediately above and below the ere a black mark, forming a conspicuous moustache; crown of the head and upper surface reddish brown, passing into chestnat-red on the rump and six middle tail-feathers; remainder of the tail-feathers black, tipped with white; wings black, with the base of the primaries and the tips of the coverts white, forming two bands across the wing; throat and centre of the abdonen fawn-white; chest and flanks washed with tawny; bill black; legs fleshy brown.

Total length, $8 \frac{1}{4}$ inches ; bill, $\frac{7}{8}$; wing, $3 \frac{3}{4}$; tail, 4 ; tarsi, $1 \frac{5}{8}$.
Hab. Cape York, Northern Australia.
Remarh:-About the size of $D$. brunneopygia. Fine specimens in the British Museum collection.

## Carpophaga assimilis.

Head, throat and ear-coverts grey ; all the upper surface, wings and tail golden green ; wing-coverts with a spot of rich jellow at the tip, forming an oblique band across the shoulder ; line down the centre of the throat, chest and abdomen rich purple; under wing-coverts, vent, thighs and under tail-coverts rich orange-yellow; basal portion of the inner webs of the primaries and secondaries purplish cinnamon.

Total length, 14 inches; bill, 1 ; wing, 7 ; tail, 6 ; tarsi, $\frac{3}{4}$.
Hab. Cape York, Northern Australia.
Remark.-Very similar to C. magnifica, but considerably less in all its admeasurements. Specimens in the British Museum.

## Cillamydera cerviniventris.

Upper surface brown, each feather narrowly margined, and marked at the tip with buffy white; throat striated with greyish brown and buff; under surface of the shoulder, abdomen, thighs and under tailcoverts light pure fawn colour.

Total length, $11 \frac{1}{2}$ inches; bill, $1 \frac{1}{4}$; wing, $5 \frac{3}{4}$; tail, 5 ; tarsi, $1 \frac{5}{8}$.
IHab. Cape York, Northern Australia.
Remark.-Intermediate in size between C. nuchalis and C. maculata, and distinguished from both by the fine fawn colouring of the under surface. A specimen in the British Museum of the male, apparently somerwhat immature.

## Nectarinia Australis.

Crown of the head and upper surface olive-green ; over and under the eye two very indistinct marks of yellow ; throat and chest steelblue; remainder of the under surface fine yellow; bill and feet black.

Total length, $4 \frac{3}{4}$ inches; bill, $\frac{7}{8}$; wing, $2 \frac{1}{8}$; tail, $1 \frac{1}{2} ;$ tarsi, $\frac{5}{8}$.
IIab. Eastern coast of Australia.
Remark.-Differs from N. franata in its larger size, in its straighter bill, and in the stripe of yellow over the eye being almost obsolete. Specimens in the British Museum.
Ann. \& Mag. N. Hist. Ser. 2. Vol. viii.

Monarcha leucotis.
Crown of the head, back of the neck, back, primaries and six middle tail-feathers black; the three lateral tail-feathers on each side black with white tips; lores, a broad mark over the eye, ear-coverts, sides of the neck, scapularies and upper tail-coverts white ; throat white, bounded below with black, the feathers lengthened and protuberant; chest and abdomen light grey; bill and feet lead-colour.

Total length, $5 \frac{3}{4}$ inches; bill, $\frac{5}{8}$; wing, $2 \frac{3}{4}$; tail, $2 \frac{3}{4}$; tarsi, $\frac{5}{8}$.
Hab. Cape York, Northern Australia.
Remark.-About the size of M. trivirgata. Specimens in the British Museum.

## A Monograph of Modulus, a genus of Gasteropodous Mollusca, of the family Littorinide. By Arthur Adams, R.N., F.L.S.

## Modulus, Gray.

Animal with the head proboscidiform, the tentacles tapering, with the eyes near their distal ends. Foot small, the sides simple, without lobes or filaments. Operculum thin, horny, orbicular, paucispiral. Shell globose or conical, whorls nodulous ; aperture round, or quadrangular, not pearly within; columella anteriorly with a prominent lamelliform tooth; umbilicus more or less open.
Modulus, Gray.-Turbo, sp. Adanson-Monodonta, sp. Lamck.Monodonta, Swains.-Morulus, Reeve.

The aperture of the shell not being pearly within, and the animal being destitute of eye-peduncles, head- and foot-lobes or filaments, at once distinguishes this genus from Monodonta, and removes it from the family Trochida.

1. Modulus lenticularis, Chemnitz.

Trochus lenticularis, Chem. Conch. 5. t. 171. f. 1665.
Trochus modulus, Linn. Gmel.
Hab. Mexico. (Mus. Cuming.)
2. Modulus tectum, Gmel.

Trochus tectum, Gmel. p. 3569. no. 16.
Monodonta retusa, Lamck. Encyclop.
Hab. Siquejar, Philippines; H. C. (Mus. Cuming.)
3. Modulus carchedonicus, Lamck.

Monodonta carchedonicus, Lamck. Hist. An.s.Vert.tom.vii. p. 33; Chem. Conch. 10. t. 165. f. 1583, 1584.

Monodonta Sayii, Nuttall.
Hab. Atooi, California; Nuttall. (Mus. Cuming.)
4. Modulus cidaris, Reeve.

Morulus cidaris, Reeve, Elements of Conch. p. 141. pl. 13. f. 63.
Hab. St. Estivan ; H.C. (Mus. Cuming.)
5. Modulus cerodes, A. Adams. M. testa turbinatd, umbilicatd, albidd, fusco sparsim inquinata, levigatd; anfractibus
rotundatis, supra planulatis, in medio cinguld bituberculata, infernè cingulis nodulosis ornatis; apertural rotundả; labio purpureo tincto, labro intus levigato; umbilico profundo, callo columellari subobtecto.
Hab. ad Fretum Mosambicum. (Mus. Cuming.)
6. Modulus duplicatus, A. Adams. M. testâ orbiculato-conicû, umbilicatâ, carulescenti, fusco variegatâ, spirâ prominulá, acutâ; anfractibus planulatis, transversim sulcatis, ad peripheriam cingulis duabus tuberculorum compressorum ornatis, tuberculis rufo-fusco maculatis, infimả fasciü convexa, concentricè sulcatâ; aperturâ intus violascenti; labro margine angulato, intus lirato; umbilico mediocri.
Hab. - ? (Mus. Cuming.)
7. Modulus obliquus, A. Adams. M. testa orbiculato-conicá, perobliqua, albâ, umbilicatâ, spir $\mathfrak{\imath}$ depressâ; anfractibus subplanulatis, liris transversis, elevatis, supra radiatim nodosoplicatis, ultimo in medio angulato, carinâ prominulû instructo, infra cingulis transversis elevatis mumerosis ornato; aperturd rotunda; columellâ roseo tinctä; labro intus lirato.
Hab. Mare Rubrum. (Mus. Cuming.)
Eglisia Cumingir, A. Adams. E. testa turrita, solidd, albida, longitudinaliter fusco-flammulatd; anfractibus rotundatis, cingulis acutis, transversis (in anfructu ultino sex), lineisque elevatis, transversis, interpositis, ornatis, interstitiis longitudinaliter tenuissimè striatis, varicibus tenuibus, longitudinalibus, incquidistantibus, instructis; apertura rotunclata, peristomate continuo, labio incrassato, antice producto, calloso, et reflexo; labro simplici, acuto.
Hab. Japonia. (Mus. Cuming.)
The obscure longitudinal varices show the true position of this genus to be between Turritella and Scalaria.

## MISCELLANEOUS.

## A Description of some of the Objects which cause the Luminosity of the Sea. By Charles William Peacii, of Peterhead, N.B.*

[With a Plate.]

There is pleasure in knowing, even when far distant from a spot where so many bright days of our existence have been spent, and where so many ralued friends reside, that institutions with which we are connected are still in existence, and to feel that a link of that chain which has so long held us together is still in our possession, and that the time is fast approaching when those kindred spirits will be assembled at one of their annual gatherings, to whom that link,

[^1]though ever so small, will prove acceptable. Impressed with that belief and under such feelings, I have resolved to give you the last of the observations I was enabled to make, on the luminous objeets which presented themselves to my notice before I left Fowey for this distant spot: I have only to regret that they are so few, still I trust they will not be altogether uninteresting. I shall first continue my journal-like form.

| Date 1849. | Sea. | Animals, \&e. | Weather, \&c. |
| :---: | :---: | :---: | :---: |
| Nov. 8th | Luminous. | (Sagitta - | Very unsettled indeed; |
| \& 14th. | Very ditto. | Thaumantias octona. | at times cold, then hot; |
|  |  | T. inconspicua. | now wet, then dry ; in |
|  |  | Mysis, and other crus- | fact, very unstable. |
|  |  | taceans; very abundant indeed. | Herrings the whole time plentiful in the har- |
|  |  |  | bour. |
| $\begin{aligned} & \text { Nov. 30th, } \\ & 11 \text { Р.м. } \end{aligned}$ | Luminous. | Some few crustaceans which twinkled in | Full Moon. - Bright, clear, with occasional |
|  |  | the shade of the boat | black clouds and show- |
|  |  | and vessels. | ers. A most splendid |
|  |  |  | lunar rainbow, colours |
|  |  |  | bright. I never saw |
|  |  |  | one so brilliant, although I have seen |
|  |  |  | many, both from fog |
|  |  |  | and rain, when I was a |
|  |  |  | ht-wanderer. |

The objects figured in the accompanying sketches I observed at different times when the sea was luminous, and the whole of them added their twinkle to the illuminations. I am not aware that any have been noticed before as occurring in Cornwall.

Plate XVII. figs. 1-3.-A Sagitta, very glass-like and perfectly transparent, and consequently most difficult to sec ; it moves by jerks; the head has two fin-like appendages, one on each side ; the eyes small, black and square, scolloped on the outer edges. I could distinctly see the working of the jaws.

Fig. 4.-One of the same kind. I obtained it in a small quantity of sea-water, which MIr. Forbes, artist, of Invernettie, near Peterhead, N.B., took up for the sake of the exuvir of a Balanus. It was a trifle larger than the Cornish ones, and had two rounded pieces in front of the tail-fin, one on each side. As well, I was able to see the double circulation going on in the tail-(see the direction of the arrows in the sketch)-the circulating medium was granular, slightly coloured brown, and passed upwards in a narrow stream, on the outer sides of the tail, until reaching the body, then turned down again on each side of a line in the centre of the tail, until again joining the mass from whence it started. The granules left the lower part at first by one or two at a time, but soon got into a dense stream. I understand this animal has been fully described in the 'Magazine of Natural History.'

Figs. $5 \& 6$.-Has occurred to me twice, and is probably the early state of an Annelide; it was very active, nearly transparent, divided
into eighteen segments, with a yellowish line down the centre of the whole and which was much darker towards the tail; on each segment were two dark spots ; and long fine pointed hairs extended the whole length of the animal beyond the tail. The head had much the appearance of a cat, and my youngest boy, with child-like simplicity, called it "the little sea-cat," and would not let me rest until I had sketched it. The head was divided into three parts, the centre one being raised ; on each side of this raised part were the crescent-shaped dark eyes, large in proportion to the animal ; between the eyes three small dark spots; on each side of the snout were whisker-like appendages, spoon-shaped at the end; on each cheek a fan tipped with pointed hairs, which with the whiskers moved at times rapidly ; at the hind part of the head two hoop-like ears-these also moved freely. It had, as well, short hairs on the tail, broadest at the outer end; these, as well as those on the head, were in rapid motion whenever the animal moved about, but quiet when it was at rest.

Figs. 7-9.-Thaumantias lucifera, which by some means had got into contact with a Sagitta. Whether it had employed the Sagitta to remove a bone which it had in its throat, after one of its delicate repasts, as the wolf did the crane, or not, I am unable to say : if so, le was not so honourable as the wolf; for despite of all the exertions of the Sagitta to free itself, and although the swallower's stomach was turned outwards in the struggle, he still refused to let him go; and the only difference that I could see was, the lips were pressed tighter round the head of his mouthful than before; for I frequently saw him, previously to the turn-out, smacking his lips, as if like the smoker of the present day he was enjoying his cigar: no doubt the dread of separation rendered this tight embrace necessary, having met with a very rough customer. This appears to me to be a proof positive that the Mcdusæ prey upon other animals, and hesitate not to attack those of large size, if they fall in their way; for I cannot believe this intrusion into the stomach of the Medusa arose from any Paul-Pry accident on the part of the Sagitta. It was a fearful struggle, maintained with great obstinacy on both sides, and which I watched for a quarter of an hour. I left them still locked, at 2 A.m., hoping at daylight to see the result of the affair, but found the vanquisher and the ranquished had vanished, and left only a very minute granular wreck behind. This rapid destruction is not uncommon among the minute objects which swarm in the sea; for as soon as the least weakness or sign of dccay takes place, the still smaller scavengers fall upon them, and in a very short time all trace of them is lost-so abundant and so voracious are these sweepers.

## time of spawning of british crustacea.

## To the Editors of the Annals of Natural History.

I inclose you a table of data which may probably assist in determining the times of spawning of twenty-four species of Crustacea taken at Weymouth. I have taken many other species, and many other specimens of the species of which I now inclose the list, but not one
carried ova. I think it would be as well to make a list with all the data, and by this means we might, were the observations carried out at different parts of the coast, fill up a hiatus in the æconomy of the Crustacea, and that not the least interesting : the depth of water should also be recorded. The list I propose is of such as are taken not carrying ova, and this, with the table now sent you, will form a basis for further calculations.

Since my notice of Achreus Cranchii, in the July number of the 'Annals,' I have been fortunate enough to procure two more specimens ; still they must not be considered as otherwise than rare on this coast.

> I am, Gentlemen, yours very obediently, William Thompson.

| Species. | Date when found carrying ova. | General Remarks. |
| :---: | :---: | :---: |
| Cancer Pagu | March 8, 1850. | Caught in a crab-pot: ova orange colour : the carapace was 3 inches wide. |
| Carcinus Menas | Mareh 11, 1850. May 28, 1851. | Ova of an orange-brown. |
| Corystes Cassivelaunus. | $\begin{array}{r} \text { Mareh 16, } 1850 . \\ \text { April } 27,1850 . \end{array}$ | I found seven females thrown up Mareh 16, 1850; of these only four carried spawn. |
| Crangon bispinosus | Feb. 11, 1851. | The ova is of a bright sea-green. Speeimens taken Feb. 23 and May 24 had no spawn. |
| C. vulgaris | Jan. 29, Feb. 13, April 13, 1851. |  |
| Galathea squamifera... | Mareh 29, 1850. |  |
| G. strigosa............. | Nov. 7, 1851. | Caught in a lobster-pot: the ova are very small, and of a beautiful garnet colour. |
| Hippolyte Cranchii |  | Ova of a reddish colour. |
| H. varians | May 24, 1851. | Ova of a reddish colour. |
| Homarus vulga | Feb. 20, 1851. |  |
| Hyas araneus. | Jan. 18, 1851. | Ova of a dark brown. |
| H. coarctat | $\begin{aligned} & \text { Feb. } 15,20 \& 27, \\ & 1851 \text {, } \end{aligned}$ | Ova of a rieh orange colour much developed. |
| Pagurus Bernhardus... | Jan. 7, 1850. | Out of eighteen speeimens eleven carried ova, which are of a dark purple nearly approaching to black. |
| P. cuanensis | May 24, 1851. | Three out of ten carried spawn of a rich orange-brown colour. |
| P. Hyndmanni | July 13, 1851. |  |
| P. Prideauxii.... | $\begin{aligned} & \text { Jan.11, Feb. 21, } \\ & 1851 \text {, } \end{aligned}$ | Ova orange. |
| Pilumnus hirtellus, | May 30, 1851. | Ova very small and of a bri orange colour. |
| Pinnotheres pisum...... | $\begin{aligned} & \text { April27, July 23, } \\ & 1850 . \end{aligned}$ | Ova of an orange colo |
| Pisa tetraodon | May 27, 1851. | Not sufficient in quan ity foree back the abdomen. |


| Miscellaneous. |  |  |
| :---: | :---: | :---: |
| Species. | Date when found carrying ova. | General Remarks. |
| Porcellana longicornis. | May 27, 1851. | Ova small and of a bright orange-brown; much more developed in some specimens than in others. |
| P. platycheles ......... | $\begin{gathered} \text { Mar } 30,1850 . \\ \text { İay } 30,1851 . \end{gathered}$ | The ova are larger than in Pi lumnus hirtellus, but of the same bright orange colour. |
| Portunus variegatus | July 23, 185 |  |
| P. arcuatus | I believe in January 1850. | Ova red. I have a specimen in sparn I obtained from the oyster-dredgers, who do not dredge beyond February, but unfortunately I omitted to make a note. |
| P. puber................. | Feb. 27, 1851. | Theova are of an orange colour: caught in a lobster-pot. |
| Stenorhynchus phalangium. | $\begin{aligned} & \text { Feb. } 27, \text { May } 24, \\ & 1851 . \end{aligned}$ | Ova of a dark orange colour. In the specimen of Feb. 27 and one of May 24, the ova were very much developed, but in a second of the latter date very little developed. |

## Geographical Distribution of Hymenoptera in Arctic North America. By Adam White, F.L.S.

"Otho Fabricius first, perhaps, recorded the names of any of the Hymenoptera of Arctic North America. Doubtless Baffin, Frobisher, and other manly narigators recognised humble bees and other bees during their sunimer royages, and may have, in print or iu manuscript, with sailor-like earnestness, made mention of every such occurrence in their journals. It is delightful to read the notices of flowers and verdure, in their accounts of the hurried spring, summer, and autumn of a Greenland year, of five-sixths winter. Where flowers and verdure abound, even for six weeks or a shorter time, there insects must be found; -there insects of the order Hymenoptera, the order to which this notice is limited, must occur. Flowers and Hymenoptera must be together.
"Otho Fabricius records two species of Hymenoptera as being brought by him from Greenland. His book, so admirable a model of a local fauna as to be eren now one of the standards of excellence, was published in 1780. The next considerable accession to our acquaintance with the Hymenoptera of British America was made by Redman, who collected in Nova Scotia many fine species now in the British Museum. Some of these, such as Pelecinus, Sirices, Ichnermonidre, \&c., were very prominent species, and are now being worked out in the vast collections of the National Museum.
"Sir John Richardson and his brave comrades collected many species, which were lost during their disastrous journey. They still, howrever, brought many insects to England, and in the 'Fauna Boreali-Americana' these insects are described by the venerable Kirby. The species of Hymenoptera are very few; there are only thirty-two altogether, including those of Canada and Nora Scotia;


[^0]:    - Anodonta tenuis. A. testá ellipticá, compressá, incqquilaterali; valvulis pertemuibus; nutibus subprominentibus; epidermide tenebroso-fusca.
    Hab. Sual, Luzon, Philippines.
    Diam. 1; length $1 \cdot 7$; breadth 3 inches.
    Remarks.-This is very closely allied to An. crepera herein described, and may, perhaps, when more specimens of the old and young

[^1]:    * Communicated by the Author; having been read at the last Annual Meeting of the Royal Institution of Cornwall in 1850.

